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**CLOSURE STRATEGY PAPER
FOR
OPERABLE UNIT NO. 15
INSIDE BUILDING CLOSURES
(January 1995)**

I. EXECUTIVE SUMMARY

Based on the results of fieldwork completed per the approved Phase I RCRA Facility Investigation Remedial Investigation (RFI/RI) Work Plan for Operable Unit (OU) 15 and presented within the Final Phase I RFI/RI Report for OU 15; No Action is necessary to be protective of human health and the environment at all six OU 15 IHSSs. Worker safeguards are necessary to limit individual worker radiation exposure in the Original Uranium Chip Roaster, IHSS 204 (chip roaster). Without safeguards in place at IHSS 204 worker exposure could exceed the five (5) roentgen equivalent man (rem) per year standard promulgated by the Department of Energy (DOE) and Nuclear Regulatory Commission (NRC).

The remedy proposed within the Proposed Plan (PP) and Draft Modification of the Colorado Hazardous Waste Permit (CHWP) for Rocky Flats Environmental Technology Site (RFETS) for OU 15 should be "No Action" to permanently close out the six OU 15 IHSSs.

II. INTRODUCTION

Preparation of a Closure Strategy Paper was agreed upon by DOE, CDPHE and EPA during an October 5, 1994 meeting. It was agreed that this strategy paper be prepared to document the decision making process with regard to remedy selection for OU 15 IHSSs. Specifically, the basis on which OU 15 decisions are made must be documented within the Administrative Record for OU 15 to support the Corrective Action Decision Record Of Decision (CAD/ROD) for OU 15 and ensure that the remedy selected for OU 15 is not construed to be arbitrary and capricious.

All of the OU 15 IHSSs are located within buildings as listed below:

| | |
|----------|---|
| IHSS 178 | Building 881, Drum Storage Area (Room 165) |
| IHSS 179 | Building 865, Drum Storage Area (Room 145) |
| IHSS 180 | Building 883, Drum Storage Area (Room 104) |
| IHSS 204 | Building 447, Unit 45, Original Uranium Chip Roaster (Rooms 32 and 502) |
| IHSS 211 | Building 881, Unit 26, Drum Storage Area (Room 266B) |
| IHSS 217 | Building 881, Unit 32, Cyanide Bench Scale Treatment (Room 131C) |

The results of the Phase I RFI/RI investigation are summarized as follows:

1. All six (6) of the OU 15 IHSSs meet the clean closure performance standards specified within the CHWP for RFETS;
2. No evidence exists to indicate that releases of hazardous or radioactive constituents have occurred from OU 15 IHSSs to the environment outside of buildings;
3. An imminent threat of a release of hazardous or radioactive constituents from OU 15 IHSSs to the environment does not exist;
4. The IHSSs investigated are in compliance with the Applicable or Relevant and Appropriate Requirements (ARARs) specified within the approved Phase I RFI/RI Work Plan for Operable Unit (OU) 15;
5. In the absence of DOE radiological control procedures, radiological contamination present within Building 447, Rooms 502 and 32, which resulted from the operation of the chip roaster, could potentially cause worker exposure to exceed the five (5) rem per year standard promulgated by the DOE and NRC; and
6. Beryllium concentrations detected within IHSS 179 and IHSS 180 are indicative of background concentrations due to building operations within Buildings 865 and 883, respectively.

III. OU 15 CLOSURE STRATEGY

RCRA Closure of OU 15

The RCRA closure strategy presented herein is applicable to all OU 15 IHSSs which includes IHSSs 178, 179, 180, 204, 211 and 217. The six (6) IHSSs listed above meet the clean closure performance standards specified within the CHWP for RFETS, these IHSSs can be clean closed with respect to RCRA without implementing corrective action. Therefore, evaluation of corrective action under RCRA is not necessary. In order to proceed with RCRA clean closure DOE should request that the CDPHE (i.e., the State) modify the CHWP for RFETS. Modification of the CHWP should be coordinated with CERCLA remedy selection by proceeding in a manner similar to that used for closure of OU 16.

CERCLA Remedy Selection for OU 15

All six (6) OU 15 IHSSs meet the ARARs specified within the approved Phase I RFI/RI Work Plan. Beryllium concentrations within IHSSs 179 and 180 are the result of building operations, not releases from OU 15 IHSSs, and are indicative of background concentrations within Buildings 865 and 883. Beryllium is considered a building issue and will be addressed as such through building economic development or D&D.

No source of contamination exists at IHSSs 178, 179, 180, 211 and 217. A potential source of radiological contamination exists at IHSS 204; however, there is no exposure pathway from IHSS 204 given that DOE radiological control procedures (i.e., current ARARs) remain in place. Therefore, there is no risk associated with OU 15 IHSSs. Evaluation of remedial alternatives is not necessary since IHSSs 178, 179, 180, 204, 211 and 217 are already in a protective state with regard to protection of workers, the environment and the public. Since OU 15 IHSSs are already in a protective state, "No Action" under CERCLA is appropriate and can be considered a presumptive remedy. In order to proceed with CERCLA remedy selection for IHSSs 178, 179, 180, 204, 211 and 217; a draft PP should be prepared proposing a "No Action" alternative as the remedy selected. CERCLA remedy selection should be coordinated with RCRA closure in a manner similar to that used for closure of OU 16.

Original Uranium Chip Roaster, IHSS 204

The chip roaster is the only mixed waste treatment unit for oxidation of uranium contaminated with RCRA regulated constituents at RFETS which has interim status under RCRA. Because of its pyrophoric nature, handling and shipment of the uranium waste may be difficult. The continued capability to oxidize uranium (i.e., mixed waste) at RFETS would be very beneficial if treatment is required for shipping and/or safe handling of the uranium waste. Future use of the chip roaster for treatment of waste is anticipated.

IV. EVALUATION OF REMEDY/CLOSURE OPTIONS

It is assumed in the following discussions that all of the OU 15 IHSSs can be "clean closed" with respect to RCRA. The primary concerns are the CERCLA remedy selection to be proposed and the associated type of CAD/ROD to be utilized per EPA guidance.

Do Nothing Option

Under this option approval of the Phase I RFI/RI Report would be obtained and no future work on OU 15 would be initiated. Closure of OU 15 would not be completed until the sitewide CAD/ROD is prepared to remove RFETS from the National Priority List.

No CERCLA Authority CAD/ROD Option

The applicability of CERCLA with regard to operations inside buildings at RFETS would be reconsidered under this option. The No CERCLA Authority option would be contentious and difficult to implement due to the high potential for disagreement between DOE, EPA and CDPHE. EPA would in effect be agreeing that the current IAG does not grant CERCLA authority inside operating buildings at RFETS. The applicable DOE Orders and Federal Regulations (i.e., the approved ARARs presented within the Phase I RFI/RI Work Plan for OU 15) which would supersede CERCLA would be presented within the CAD/ROD and formally agreed to upon CAD/ROD adoption.

No Action CAD/ROD Option

Based on the Phase I RFI/RI Report for OU 15, the approved ARARs for OU 15 have been met for all six (6) OU 15 IHSSs. No risk exists due to OU 15 IHSSs due to the lack of a complete exposure pathway (i.e., source, release mechanism, pathway and receptor); therefore no action is necessary to be protective of workers, the environment and the public. Within the CAD/ROD it would be recognized that administrative control of OU 15 IHSSs, specifically IHSS 204, would be maintained by DOE to ensure that radiological procedures (i.e., current ARARs) are maintained. The No Action option can be considered a presumptive remedy and would be a permanent remedy. This option would allow agreement between EPA, DOE and CDPHE to be reached without having to address contentious political issues such as the authority of CERCLA within operating buildings at RFETS.

Institutional Controls CAD/ROD Option

The applicability of CERCLA with regard to operations inside buildings at RFETS would be reconsidered under this option. The Institutional Controls option would be contentious and difficult to implement due to the high potential for disagreement between DOE, EPA and CDPHE. DOE would in effect be agreeing that the current IAG grants CERCLA authority over operations within buildings at RFETS. Current administrative controls at RFETS utilized to meet DOE Orders and Federal Regulations (i.e., the approved ARARs presented within the Phase I RFI/RI Work Plan for OU 15) would become the institutional controls presented within the CAD/ROD and formally agreed to upon CAD/ROD adoption. However, the current administrative controls are not in place due to OU 15 IHSSs but

are in place due to past building operations and do not necessarily apply to OU 15 IHSSs. The Institutional Controls option is not appropriate for IHSSs 178, 179, 180, 211 and 217 since there is no source of contamination associated with these IHSSs and therefore nothing to control to reduce risk.

In addition, an Institutional Controls CAD/ROD would not be a permanent remedy. Review of an Institutional Controls CAD/ROD document would have to be completed every five years to ensure that changes in administrative controls for the buildings were addressed until D&D was completed. Significant costs would be incurred to maintain Federal funding/budgeting requirements necessary for review of an Institutional Controls CAD/ROD every five years.

Interim CAD/ROD Option

An Interim CAD/ROD has been proposed as an option. However, there is no precedent for an interim ROD under CERCLA. Preparation of Interim CAD/ROD documents would be difficult since there are no EPA guidance documents available for Interim CAD/ROD preparation. Agreement on the content of the associated documents, coordination of public participation, etc. would require additional resources, money and time due to the lack of EPA guidance available. An Interim CAD/ROD will not provide added value since a final CAD/ROD would still have to be prepared for OU 15. In affect an Interim CAD/ROD would probably have to be structured similar to either the No Action CAD/ROD or Institutional Controls CAD/ROD described above, including a five year review of the CAD/ROD.

Remedy CAD/ROD Option

A remedy is not necessary for IHSSs 178, 179, 180, 204, 211 and 217 in order to ensure protection of the public, workers, and the environment. The Administrative Record for OU 15 does not support a decision to take remedial action at OU 15 IHSSs and such a decision could be considered arbitrary and capricious.

V. SUMMARY

Based on the results of fieldwork completed per the approved Phase I RFI/RI Work Plan for OU 15 and presented within the Final Phase I RFI/RI Report for OU 15; a "No Action" remedy is protective of human health and the environment for IHSSs 178, 179, 180, 204, 211 and 217. The "No Action" remedy should be proposed for all six (6) OU 15 IHSSs.

DOE COMMENTS AS GIVEN ON JANUARY 4, 1995

ON THE CLOSURE STRATEGY PAPER TRANSMITTED ON DECEMBER 15, 1994

Section I - Executive Summary

Paragraph 1, First Sentence:

1. Strike the word "Draft" in reference to the Phase I RFI/RI Report.
2. Strike "five of" the six OU15 IHSSs.

Paragraph 1, Second Sentence:

1. Replace "The exception" with "*Worker safeguards are necessary to limit individual worker radiation exposure in*" . . .
2. Replace "from which" with "*without these safeguards*" worker exposure . . .

Paragraph 2, First Sentence:

1. Replace "five of" with "*the six*" . . .

Paragraph 2, Second Sentence:

1. Delete the entire sentence.

Section II - Introduction

Paragraph 3, First Sentence:

1. Replace "can be" with "*are*" . . .

Paragraph 4, First Sentence:

1. Strike out "No evidence exists to indicate that".
2. Add . . . environment "*does not*" exist.

Paragraph 6, First Sentence:

1. Delete "AEC".

Paragraph 6, First Sentence:

2. Add . . . NRC "*in the absence of DOE Radiation Control Procedures to limit worker exposure*"

Section III. - OU15 CLOSURE STRATEGY

Subsection - RCRA Closure of OU15

Paragraph 1, First Sentence:

1. Replace "includes" with "*is applicable to all*" IHSSs: 178,179, 180, 204, 211, and 217.

Paragraph 1, Second Sentence:

1. Delete entire sentence.

Paragraph 1, Third Sentence:

1. Replace "Since the five (5)" with "*All six (6)*". . .

Subsection - CERCLA Remedy Selection for OU15

Paragraph 1, First Sentence:

1. Delete entire first sentence.

Paragraph 1, Second Sentence:

1. Replace "In addition, IHSSs 178,179,180,211, and 217" with "*All IHSSs*". . .
2. Delete "and no source of contamination exists within these IHSSs."

Paragraph 2, First Sentence:

1. Replace "Since no" with "*No*" source . . .

Paragraph 2, First Sentence:

1. Add new second and third sentence "*A source of contamination is present in IHSS 204, but no pathway exists for release.*" Third sentence should address controls.

Subsection - Original Uranium Chip Roaster, IHSS 204

Paragraph 1- Last Sentence:

1. Delete entire sentence.

Paragraph 2 - Last Sentence:

1. Delete entire sentence.

Section IV. - Evaluation of Remedy/Closure Options

Paragraph 1 - Last Sentence:

1. Delete entire sentence.

Subsection - No Action CAD/ROD Option

Paragraph 1 - First Sentence

1. Insert "all" after . . . have been met for ____ IHSSs and delete remainder of sentence.

Paragraph 1 - Second Sentence:

1. Delete "Since there is no source of contamination associated with these IHSSs"

Paragraph 1 - Second Sentence:

1. Begin with "*No exposure*" exists and no action . . .

Add a Subsection to address Administrative Controls CAD/ROD Option

Subsection Remedy CAD/ROD Option

Paragraph 1 - First Sentence:

1. Include IHSS 204.

Section V. - Summary

Paragraph 1 - First Sentence

1. Delete end of sentence from "for IHSSs 178,179,180,211, and 217.

Paragraph 1 - Second Sentence:

1. Include IHSS 204.

Paragraph 1 - Last Sentence:

1. Delete entire sentence.